

US EPA ARCHIVE DOCUMENT

ENVIRONMENTAL RESULTS PROGRAM SECTOR SELECTION PROCESS

Introduction

Purpose of this document:

This document is designed to help policy makers and staff in state environmental regulatory agencies identify business sectors with environmental impacts that may effectively be addressed through the Environmental Results Program (ERP). This document describes a sample step-by-step process for sector selection, and it offers general guidance for assessing sector characteristics. This document is informed by the experience of one state, New Jersey, in selecting sectors for ERP. In practice, states may find that the sector selection process is much more iterative than described here. Moreover, each state is different, and readers should tailor their sector selection approaches as needed, depending on their state's circumstances.

What is a sector:

For the purposes of this document, a "sector" is a group of entities that contribute to the same environmental problem and share common environmental compliance requirements. For instance, a sector may be defined by a SIC or NAICS code (e.g., SIC 7216 – dry cleaning plants), type of equipment (e.g., industrial boilers or underground storage tanks), or regulatory definition (e.g., small quantity generators of hazardous waste).

Steps in the sector selection process:

There are three main steps involved in selecting sectors to address through ERP: identifying priority sectors, screening those sectors for ERP feasibility, and checking for barriers to ERP implementation. These steps are introduced here, and then reviewed in detail in the following sections of this document.

Step 1: Identifying priority sectors. As with any innovative policy tool, implementing ERP takes time and resources on the part of regulatory agencies. Therefore, agencies considering ERP should ensure their efforts are directed at high-priority environmental problems. Environmental priorities that have been identified through state-level strategic planning or the National Environmental Performance Partnership System (NEPPS) process can provide a good foundation for ERP. Once an agency has identified high-priority problems, it can consider which sectors are important contributors. For example, a agency may have identified ground water contamination as a high-priority environmental problem, and regulatory staff may have anecdotal evidence that gas stations with underground storage tanks are key contributors to this problem. Staff may wish to specifically consider sectors that contribute to state environmental priorities and are the target of other states' ERP efforts. Once staff identify an initial list of sectors that are of concern, they can confirm the impact of these sectors by reviewing available data about their environmental impacts. In the absence of previously identified environmental priorities, staff may review existing data for a wide spectrum of sectors to identify those with significant cumulative environmental impact. In this case, sectors will generally be defined by SIC or NAICS code, since sector data is usually organized in those terms. Keep in mind that data may not be available for small business sectors, and those data that are available may be misleading due to reporting thresholds that exceed emissions from individual small businesses. Program staff may be able to help interpret available data in order to come up with a more realistic assessment of sectors' contributions to environmental priorities. A reasonable goal for Step 1 is to identify between five and ten sectors that you believe to have a significant cumulative environmental impact.

Step 2: Screening for ERP feasibility. For each of the sectors identified in Step 1, it is suggested that staff consider two factors to assess ERP feasibility: 1) whether ERP would be an effective policy tool for addressing the sector (i.e., opportunity for ERP) and 2) the degree of difficulty an agency

would have in implementing ERP for that sector. Step 2 should identify the most promising sector(s) from the standpoint of overall ERP feasibility.

Step 3: Checking for barriers to ERP implementation. Once the most promising ERP sectors have been identified, it is important to ensure that the chosen sectors do not present any insurmountable obstacles to ERP implementation. Potential barriers may include legislative or regulatory obstacles and lack of incentives for participation. Step 3 should identify any obstacles to implementing ERP in the most promising sector(s). If obstacles are identified, staff may develop strategies to address them or choose alternate ERP sector(s).

The remainder of this document provides detailed guidance for each of these steps.

Step 1: Identifying Priority Sectors

A useful motto for regulators considering innovative policies is to “pick important problems and fix them.”¹ It is recommended that agencies considering ERP first pick the important problems they want to solve, and then consider which of those problems may be fixed by adopting ERP.

Many agencies have already picked important environmental problems through strategic planning processes or through NEPPS. If an agency has gone through this type of priority-setting process, the results can help inform what areas of focus are important for ERP. If state-wide environmental priorities have not been established, one approach to identifying priorities is to review environmental goals at a programmatic level. This process need not be complex -- a brief review of existing priorities and a meeting among decision-makers could be adequate. However, it is important that the management team agrees that the environmental problems selected are high priorities. Moreover, it is important not to pick too many problems to consider, since it will take time to review each problem and the sectors associated with it. A general guideline is to pick no more than four or five environmental problems.

Once an agency has identified high-priority environmental problems, the next step is to identify which sectors are major contributors to those problems. Program staff familiar with the problem are one of the best sources of information about contributing sectors because of the limitations and biases of available databases. It is advisable to consult with program staff in the different media offices early in the sector selection process to identify which sectors are contributing to high-priority environmental problems. In addition, program staff can provide insight into which sectors may already be the target of other policy initiatives, including voluntary programs, compliance assistance efforts, or targeted enforcement programs. An agency may choose to continue working with previously targeted sectors or, alternatively, choose sectors for ERP that have not previously been the focus of a specific agency initiative.

Staff may wish to consider whether sectors that other states have addressed through ERP are currently contributing to environmental priorities in their state. Since it will be easier to implement ERP if materials for that sector have already been developed, it may be advisable to include these sectors in the screening process. Sectors for which ERP materials have been developed include:

- dry cleaners
- printers
- auto salvage yards
- industrial boilers
- photo processors
- auto repair shops
- auto body shops
- underground storage tanks

Once the initial list of sectors has been compiled, one may use quantitative data about the sectors to confirm that they are a high priority and screen out sectors that have relatively minor environmental impacts. Alternatively, if one cannot identify environmental priorities in advance, one may review a wide spectrum of environmental data by SIC or NAICS code to identify those sectors that present significant

¹ Sparrow, Malcolm K., *The Regulatory Craft: Controlling Risks, Solving Problems, and Managing Compliance*, Brookings Institution Press, Washington D.C., 2000.

environmental concerns. Several types of criteria can be used to screen sectors with regard to their environmental impact. For example, one can review data on environmental emissions and releases, such as:

- Criteria air pollutants
- Air toxics
- Toxics Release Inventory (TRI) releases
- Persistent, Bioaccumulative Toxics (PBT) releases
- Hazardous waste
- Wastewater
- Greenhouse gases

If data are available, reviewing information on public complaints by industry sector may provide insight about sectors that are contributing to environmental problems that are important to local communities.

There are three important caveats to keep in mind when reviewing quantitative data:

- First, it is important to tailor screening criteria according to the specific environmental problems an agency is trying to address. Specific types of emissions, in particular, are likely to vary in importance depending on the environmental priority.
- Second, data may not be available for all sectors of interest. If data are not available, one may be able to make an educated guess in order to rank the sector. It is important not discount a sector simply because data are lacking, since doing so could bias the results of the screening process towards sectors that have more data available but are not necessarily a higher priority.
- Third, existing data may be misleading. For example, a sector primarily comprised of small enterprises may appear to have low emissions in databases such as TRI, however this could be due to the fact that reporting thresholds for TRI exceed the annual emissions for the average small business. However, cumulative emissions of the sector could still be significant if the total number of facilities is large. One approach to obtain more accurate data for small business sectors is to review data that other states have collected through ERP about those sectors, and to use that data to develop sector-level estimates. For example, if another state has determined the average perchloroethylene emissions per year for the average drycleaner, one could multiply that emissions factor by the number of drycleaners in the state in order to estimate sector-level emissions for drycleaners.

Availability of specific types of data will vary between states. Possible sources of data available on a national basis include the National Air Toxics Assessment (NATA) data for cancer risk and non-cancer risk from point sources and area sources, and TRI data, which can be sorted for different types of chemicals, such as PBTs. State specific data sources may supplement nationally available databases.

One way to summarize quantitative data on emissions and releases is to score sectors based on their relative ranking for each type of emissions. For example, for TRI releases, release data can be summed by 4-digit SIC and sorted from highest to lowest amount of emissions. Each 4-digit SIC can then be assigned a score from 0 to 5, 0 being the lowest total emissions per SIC (signifying relatively little or no environmental impact) and 5 being highest total emissions per SIC (signifying significant environmental impact relative to the group). Cutoff points for individual scores would vary depending on conditions within a given state. Table 1 gives threshold values for this type of scoring approach that New Jersey used in its sector selection process.

Table 1 : Examples of Environmental Criteria Scoring

Rank	TRI in Tons	PBTs in Tons	Criteria Air Pollutants In Tons	NATA Point Source Cancer Risk Weighted using URF ²	NATA Point Source Non-Cancer risk Weighted using HQ ³	NATA Area Source Cancer Risk Weighted using URF ²	NATA Area Source Cancer Risk Weighted using RfC ⁴
5	>10,000,000	>1,000	>1,000	>1.00E-3	>30	>1.00E-3	<100
4	>1,000,000	>500	>500	>1.00E-4	>10	>1.00E-4	>10
3	>100,000	>100	>100	>1.00E-5	>1	>1.00E-5	>1
2	>10,000	>50	>50	>1.00E-6	>0.2	>1.00E-6	>0.1
1	>1,000	>10	>10	>1.00E-9	>0	>1.00E-8	>0.01
0	<1,000	<10	<10	0	0	0	0

Once scores are assigned to each sector for individual data sources, an average score for each sector may be calculated from the scores for each type of data available. Depending on the importance of different criteria, one could also choose to weight one type of data more heavily than another when calculating an average score per sector. Remember that the sector scoring guidelines provided in Table 1 only provide one example of a scoring approach. Scoring thresholds should be carefully considered and adapted for a state's particular circumstances.

Step 2: Screening for ERP Feasibility

Once an agency has identified sectors that are contributing to a high-priority environmental problem, the next step is to determine the feasibility of using ERP as a policy tool to improve compliance and environmental performance in those sectors.

The first consideration in assessing ERP feasibility is the extent to which sector characteristics suggest a good opportunity for ERP. ERP has traditionally been implemented in sectors made up of a large number of small facilities with a significant cumulative environmental impact. ERP has been applied where traditional regulatory approaches have not provided significant regulatory "coverage" – i.e., where many facilities are inspected only infrequently, if ever, or where a large percentage of facilities fail to obtain needed permits. ERP has also been implemented where facilities lack information about compliance requirements and best management practices, and where this lack of information is contributing to poor environmental performance.

Qualitative criteria in order to assess the opportunity for ERP within a sector are suggested in Table 2. Agencies may or may not choose to assign quantitative scores to these criteria, however these criteria should be carefully evaluated as they can significantly impact the feasibility of adopting ERP for a given sector.

² Unit Risk Factor

³ Hazard Quotient (HQ): The ratio of the potential exposure to the substance and the level at which no adverse effects are expected. If the Hazard Quotient is calculated to be less than 1, then no adverse health effects are expected as a result of exposure. If the Hazard Quotient is greater than 1, then adverse health effects are possible.

⁴ Reference Concentration (RfC): The RfC is an estimate (with uncertainty spanning perhaps an order of magnitude) of a continuous inhalation exposure to the human population (including sensitive subgroups which include children, asthmatics and the elderly) that is likely to be without an appreciable risk of deleterious effects during a lifetime.

Table 2: Qualitative Criteria for Assessing ERP Opportunity	
Sector Selection Criteria	Criteria Description
Facility size and sophistication	Sectors with a large percentage of small and/or unsophisticated facilities represent an opportunity for ERP, since ERP offers compliance assistance and a self-certification process that may particularly help such facilities better understand and commit to meeting compliance requirements and best management practices. Large, sophisticated facilities will probably not benefit as much from compliance assistance, since they are likely to already have staff who are conversant with environmental requirements.
P2/BMP implementation potential	This factor indicates the degree to which there are pollution prevention (P2) opportunities or best management practices (BMPs) that are available to a given industry but that have not been widely adopted. ERP may help foster widespread understanding and implementation of P2 activities and BMPs.
Long-term agency resources available to deal with sector	ERP may help regulatory agencies save resources over the long term, and therefore lack of available agency resources over the long term to work with a sector represents a good opportunity for ERP.

Table 3 illustrates examples of quantitative criteria related to opportunity for ERP. Again, agencies may or may not choose to assign quantitative scores to these criteria. Note that all of the criteria in Table 2 are applicable only to regulated sectors.

Table 3: Quantitative Criteria for Assessing ERP Opportunity	
Sector Selection Criteria	Criteria Description
Total number of regulated facilities	ERP has traditionally been implemented in sectors with large numbers of regulated facilities where inspection resources are insufficient to regularly visit all facilities. The greater number of facilities addressed through ERP, the more cost-effective the program can be.
Inspection rate	Number of facilities inspected annually compared to the total number of facilities in the sector. This criterion indicates one aspect of regulatory "coverage" of a given sector. If inspection rates are low, it suggests that ERP could be useful in using statistical sampling to measure environmental performance and target inspection resources. Thus, the lower the inspection rate, the higher the score for ERP opportunity.
Ratio of permits issued to total universe of facilities	Number of facilities with a permit as a percentage of the total number of facilities that should be permitted. This criterion indicates another aspect of regulatory "coverage." When a small percentage of facilities that should have permits actually have them, there may be an opportunity for ERP to efficiently address facilities that have failed to obtain permits. The lower the ratio of permitted facilities, the higher the score for ERP opportunity.
Number of air or water permits issued	The greater number of permits issued, the more opportunity there may be for ERP to introduce efficiencies through self-certification (or self-certification in combination with general permits) in lieu of individual facility permits. Thus the greater the absolute number of permits issued, the higher the score for ERP opportunity.
Number of CESQGs and SQGs	Conditionally Exempt Small Quantity Generators (CESQGs) and Small Quantity Generators (SQGs) of hazardous waste are some of the types of facilities that have been targeted by ERP in the past. Therefore, a large number of these types of facilities within a given sector may indicate a good opportunity for ERP.

Table 3: Quantitative Criteria for Assessing ERP Opportunity	
Sector Selection Criteria	Criteria Description
Ratio of minor enforcement actions to inspected facilities	Number of minor enforcement actions (e.g., warning calls or letters and notices of violation) as a percentage of the number of inspected facilities in the sector. A high frequency of minor enforcement actions for a given number of inspections suggests that regulators may be spending a lot of time processing minor enforcement actions. ERP can offer a more efficient way to help facilities understand their compliance requirements and bring them into compliance without requiring enforcement action. Thus the greater the ratio of minor enforcement actions to inspected facilities, the higher the score for ERP opportunity.

In order to assess ERP feasibility for a given sector, it is important not only to evaluate the opportunity for ERP within that sector, but also the relative ease of implementing ERP in the given sector. Certain characteristics of the sector, such as facilities' willingness to participate in ERP, can make a big difference in the amount of resources required on the part of the regulatory agency to implement ERP. Likewise, there may be characteristics of the agency that make it easier to implement ERP in some sectors rather than others. Table 4 describes criteria related to ease of ERP implementation and how they may be used to screen sectors.

Table 4: Qualitative Criteria for Assessing Ease of ERP Implementation	
Sector Selection Criteria	Criteria Description
Sector willingness to participate in ERP	In order to implement ERP, agencies often need input and feedback from the regulated industry in order to ensure that ERP materials are effective communication tools for their intended audience. Generally, sectors that are willing to participate in ERP will be easier to address through ERP. In particular, sectors that oppose ERP may be unlikely to participate in a voluntary program without a serious enforcement threat, but they may also make it difficult to generate the political will to create a mandatory ERP program. A history of mistrust between regulators and the industry may require agencies to undertake outreach efforts in order to identify facilities and gather needed feedback.
Sector organization	Sectors that are well organized can make ERP implementation easier by facilitating communication among facilities in the sector. For example, trade associations can be very helpful in implementing ERP by disseminating and translating ERP materials, by hosting ERP workshops, and ensuring that trade association members are aware of ERP. Less formal channels of communication can also be very effective in spreading the word about ERP.
ERP/compliance assistance materials available	It takes a significant amount of work to develop ERP materials (e.g., inspector checklists, workbooks, and self-certification forms). If ERP materials have already been developed for a sector (as they have been for auto repair, photo processing, printing, and dry cleaning sectors), it may facilitate easier ERP implementation since only minor modifications to these materials may be necessary. If general compliance assistance materials are available for a sector, this can help ERP implementation to a limited extent; however, it will likely take significant effort to convert these general materials into ERP-specific materials.

Table 4: Qualitative Criteria for Assessing Ease of ERP Implementation

Sector Selection Criteria	Criteria Description
Geographic distribution	Sectors that have facilities concentrated in relatively small geographic areas will require less implementation resources than those sectors with facilities dispersed over wide areas. The more dispersed facilities are, the more resources and time may be required to conduct inspections. However, this would also be true with any non-ERP inspections.
Public/stakeholder support for action within sector	Public and stakeholder concern about a sector can generate political will to target the sector and can contribute to increased resources for ERP implementation. In some cases, concerned stakeholders have played a direct role in assisting with ERP implementation. For example, in one ERP program, concerned community members helped identify the universe of facilities and personally distributed ERP materials to facilities included in the program.
Program support within the Agency for ERP	Sectors may be regulated under different programmatic areas within a regulatory agency, and these programs may have varying support for the ERP approach. To the extent that a sector is regulated under a program that does not embrace the ERP model, it may make it difficult to garner the necessary resources and political will to implement ERP.
Short-term agency resources available to implement ERP	ERP implementation can require significant up-front resources to define the ERP sector universe, develop ERP materials, conduct baseline inspections, disseminate ERP materials, and conduct follow-up inspections. For this reason, having sufficient agency resources available is critical to successful ERP implementation. Short-term resources that are targeted to a particular sector (e.g., a grant to address sector-specific impacts) can facilitate ERP implementation.

Step 3: Checking for Barriers to ERP Implementation

After completing the accompanying matrix and scoring sectors for feasibility, a final sector (or perhaps a few final candidates) that appear to represent the best options for ERP implementation should be identified. Before proceeding, it is important to consider whether there are any barriers to ERP implementation within these sectors.

First, agencies should consider whether there are any legislative or regulatory obstacles to ERP in the chosen sector. For example, some sectors, such as agriculture, have special exemptions that could make implementing ERP more difficult. Other sectors may be subject to a regulatory framework where states have little flexibility in differing from federal requirements. Part of this consideration of legislative and regulatory obstacles depends on whether an agency is intending that ERP self-certification will replace permits, and whether ERP self-certification will be mandatory or voluntary. For instance, mandatory ERP initiatives require that facilities self-certify as to the state of their environmental compliance and/or performance, while voluntary programs allow facilities to opt-in to self-certification if they wish. Voluntary ERP initiatives may be more appealing to certain stakeholders, but they are generally thought to be less effective in motivating widespread improved environmental performance and in allowing for performance measurement. Mandatory ERP initiatives generally require rulemaking, which usually requires additional resources and time, and adds uncertainty. Depending on the political context within a state, rulemaking may present a considerable obstacle to implementing mandatory ERP.

Another consideration is the degree to which an agency can create incentives for ERP participation. Mandatory programs, of course, have the built-in incentive that facilities are required to participate by law. However, even mandatory ERP programs must address the potential problem of facilities that do not return certification forms. Some incentives that states have considered include: 1) creating an increasing fine for late return of certification materials, 2) imposing penalties through an administrative penalty law,

3) creating positive incentives for facilities to return forms on time (e.g., a lottery with prize money), or 4) charging a fee for certification to make facilities take the process more seriously.

Voluntary ERP programs call for even more incentives, since facilities are not required to participate. Some voluntary programs have used the threat of inspections to motivate participation by focusing inspections on those facilities that choose not to self-certify. In addition, some voluntary programs have fostered a friendly competition between trade association members to see which facilities can return their ERP materials first. Other incentives for ERP participation could include penalty mitigation under state audit policies for violations discovered during the certification process, simplified reporting, permit replacement and fee waivers. Regulators could also consider negotiating with insurance companies to provide improved insurance terms (e.g., lower premiums or expanded coverage) for facilities that voluntarily self-certify. States may have varying abilities to implement these incentives for participation, and lack of sufficient incentives may present a barrier to ERP implementation.

Once an agency has ensured there are no insurmountable barriers to ERP in its chosen sector, it can proceed with ERP implementation.